REMARKS/ARGUMENTS

No claims are amended, canceled, or added. Claims 1-12 and 16-20 are pending. (Claims 13-15 were previously canceled.) Applicant respectfully requests reexamination and reconsideration of the application in light of the following remarks.

Claims 1-11, 13-16, and 18-20 were rejected under 35 USC § 103(a) as obvious in view of US Patent No. 6,150,186 to Chen et al. ("Chen") and US Patent No. 4,983,804 to Chan et al. ("Chan"). In addition, claim 12 was rejected under 35 USC § 103(a) as obvious in view Chen, Chan, and US Patent No. 5,340,537 to Barrett ("Barrett"), and claim 17 was rejected under 35 USC § 103(a) as obvious in view Chen, Chan, and US Patent No. 5,476,211 to Khandros ("Khandros"). Applicants respectfully traverse these rejections.

Independent claim 1 is directed to a "method for heat treating a plurality of conductive interconnect structures attached to a substrate." An oscillating electromagnetic field heats "the interconnect structures ***without substantially heating the substrate***" to which the interconnect structures are attached.

Neither Chen or Chan teach "heating the interconnect structures ***without substantially heating the substrate***" to which the interconnect structures are attached, as required by claim 1. The Office Action correctly acknowledges that Chen does not teach "heating the interconnect structures ***without substantially heating the substrate.***" And Chan, in fact, expressly teaches heating "the ***areas*** of pads 14, 16, and 22," which necessarily includes the portions of the substrate 12 to which pads 14, 16, and 22 are attached. Chan also expressly teaches heating the pads 34, 35, 43, and 44 attached to substrates 42 and 10 in the embodiment of Figure 4 (Chan col. 4, lines 25-27), which again necessarily heats the substrates 42 and 10 in the area around where the pads are attached to the substrate 42 and 10. Indeed, Chan is not concerned with avoiding heating substrates 10, 11, and 42 but is only concerned with not melting solder holding other electronic components to the substrate. (Chan col. 3, lines 21-30.) Thus, neither Chen nor Chan discloses "heating the interconnect structures ***without substantially heating the substrate***," as required by claim 1. For this reason alone, the rejection of claim 1 should be withdrawn and the claim allowed.

Moreover, there is no suggestion or motivation to apply Chan's use of inductive heating to melt solder to Chen's teachings regarding heat treating a structure to transform the mechanical characteristics of the structure. Indeed, Chen teaches sophisticated heat treating procedures that

cause a fundamental change in the very characteristics of the structure. (E.g., Chen col. 10, lines 34-36.) A person of ordinary skill in the field would not be motivated to apply Chan's simple teachings regarding melting solder to the sophisticated heat treatment procedures described in Chen. The combination of Chen and Chan is thus improper, and for this additional reason, the rejection of claim 1 should be withdrawn and claim 1 allowed.

Claims 2-12 and 16-20 depend from claim 1 and are therefore patentable for the same reasons as claim 1. (The other prior art of record does not make up for the above-described deficiencies in Chen and Chan.) In addition, claims 2-12 and 16-20 recite other features that further distinguish over the prior art of record. For example, claim 12 describes the use of a heat-indicating paint on the interconnect structures of claim 1. Barrett is relied on for its general teachings regarding the existence of such heat-indicating paints. Again, however, there is no motivation to combine Barrett with Chen and Chan. Indeed, Chan teaches away from the need for any temperature indicating device. According to the Chan disclosure, Chan's heating device is self regulating and will heat the pads and substrate only to a predetermined temperature. (Chan col. 3, lines 37-31.) Because Chan's heating device is self regulating and heats to a known temperature, there would be no reason to use temperature indicating paints like those disclosed in Barrett.

In view of the foregoing, Applicant submits that all objections and rejections are overcome and all of the pending claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicant's attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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